

ABSTRACT OF THE DISCLOSURE

A method for establishing different parameters of a surface of a work piece during machining of the surface using a spindle supporting a tool and displacement sensors for measuring displacement to which the spindle is subjected during machining. The method involves machining work pieces with different back off times to create sets of sensor signals representing spindle deflections. The machined work pieces are measured and then the stored sensor signals are compared with the measurement results of the same work pieces. Transfer constants are calculated representing the influence of the total deflection of the machine stiffness on the sensor signals. Displacement sensor signals obtained upon machining subsequent work pieces are processed with the transfer constants to give a series of sensor signals representing the true total deflection of the loaded and running machine stiffness chain to permit calculation of different parameters of the subsequently machined work pieces.